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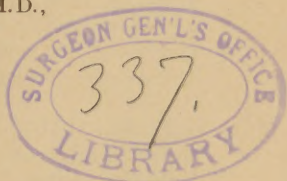
LECTURE

ON

The Operative Treatment of Retroversion. Alexander's Operation.

BY

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P 1 F O R D . (H . I .)

THE OPERATIVE TREATMENT OF RETROVERSION. ALEXANDER'S OPERATION.

GENTLEMEN:—Until recently the treatment of retroversion of the uterus had been a standing reproach to gynecology. An inspection of older hospital reports will show plenty of cures of almost every other non-malignant ailment, but scarcely ever a cure of chronic retroversion. Retroversion pessaries of various kinds and modifications follow each other like the waves of an unquiet sea, and disappear without bringing any cure with them. Now, however, since operative gynecology has taken the subject in hand, incurable cases are fast becoming the exception.

Operative procedures are of two kinds: those for the purpose of restoring the uterus to a natural condition, and those for restoring the uterine supports to their natural functions. It is to the latter class of operations that I wish to call your attention, supposing that the uterus itself has already received appropriate treatment.

The uterine supports may be divided into three classes, the pelvic roof or sustaining, the pelvic floor or retaining, and the perineum or supplementary. The expansion and duplication of the perineum over the pelvic organs form, with these organs and their surrounding connective tissue, the pelvic roof. When speaking of them as uterine supports, we divide them into five portions; the broad ligaments extending across the pelvis from side to side and including the uterus in their embrace; the sacro uterine ligaments, extending from the posterior surfaces of the broad ligaments and uterus near the junction of the body

and cervix, around the rectum to the upper and middle sacral regions, and suspending the cervix a trifle back of the axis of the superior straight; the pubo-vesico-uterine ligament, extending from the pubes to and around the bladder and cervix, and holding the cervix away from the sacrum; and the round ligaments extending from the uterine horns or shoulders like long narrow curved arms, forward into the inguinal canals. The function of the last mentioned ligaments is to keep (or return) the fundus in front of the axis of the superior strait, so that the abdominal pressure will bear upon the posterior surface of the uterus. All of these tissues suspend the uterus in the center of the pelvis with the fundus in front of the axis of the superior strait, and the external os somewhat behind it. When the body is in a state of rest these elastic supports easily sustain the weight of the uterus, and that of the superincumbent abdominal viscera. which are also suspended and bear but slightly upon it. During muscular action, however, the abdominal pressure bears upon the posterior surface of the uterus and forces the anterior wall of the whole uterus downward toward the pelvic outlet. The resistance of the sacro-uterine ligaments tends to hold the cervix up from the coccyx and favors a rotation of the external os backward toward the sacrum as the fundus is pressed down. Thus we see that even when the uterine ligaments are not strong enough to resist this abdominal pressure they normally direct the lower end of the uterus back upon the pelvic floor and the upper end forward upon the firm pubo-vesico-uterine septum.

The pelvic floor or retaining support is made up of the lower end of the sacrum, the coccyx, and the coccygeo-anal ligament in the median line; by the ischial bones and obturator internus muscles laterally; between these points by the sacro-sciatic ligaments, pyriformis, coccygeus, levator ani and levator vagina muscles, the levator and recto-vesical

fasciæ, and lower down by the connective tissue padding of the ischio-rectal fossa, the gluteal muscles. etc. These structures form a firm floor capable of supporting the uterus when borne against it by any pressure to which it is liable.

The perineum, supplementary uterine support occupies the space between the pubic rami in front of the anus and extends in the median line back along the coccygeo-anal ligament to the coccyx. It is made up of the recto-vesical fascia and levator vaginæ, or vaginal sphincter, supported by it; the perineal septum or triangular ligament containing the constrictor urethræ; the perineal fascia containing the constrictor cunni or vulval sphincter and the transversus perinei, and by the sphincter ani with its facial coverings. The perineum forms a barrier across and just below the pelvic outlet or space between the levator ani behind and the pubes in front. It is firm enough to act as a support to the viscera which penetrate it and terminate in it, and at the same time is sufficiently elastic to allow the visceral contents and fruits of parturition to pass through it. It supports the uterus indirectly by supporting the parts in front of and below it.

In every complete retroversion of a normal sized uterus the external os lies in front and the fundus behind the axis of the superior strait; in slighter forms the displacement is the same in kind but less in degree. Hence our operations must either assist in holding the cervix back of the axis of the superior strait, or the fundus in front of it.

For holding the fundus forward two operations have been performed, viz.: (1) stitching the fundus uteri or its appendages forward against or near the abdominal walls or bladder, and (2) shortening the round ligaments. The former, first done by Kœberlé, requires that the abdominal cavity be opened, and is seldom justifiable except as secondary to a laparotomy for another purpose. We can usually employ other

equally efficient and less hazardous means. The operation for shortening the round ligaments was conceived, successfully performed and established as a therapeutic measure by W. Alexander, of Liverpool, in face of almost universal opposition. The most telling objections against the operation were that it was difficult to perform (an exceedingly puerile one), and that it was unscientific to operate upon the round ligaments because the sacro-uterine ligaments were the chief ones at fault. The latter objection is rendered untenable by the fact that when we draw the fundus forward we restore the normal direction of the uterine axis with reference to abdominal pressure although the whole uterus may be a trifle forward of its natural location, and by the fact that after the os is rotated backward the sacro-uterine ligaments tend to retract, and regain their supporting function. I would like to remind you here that the traction of the shortened round ligaments are not antagonized by abdominal pressure, but turn the fundus so that abdominal pressure assists them.

This patient has a flexible uterus and a relaxed state of the sacro-uterine and broad ligaments, allowing the cervix to turn forward and upward against the vesico-vaginal septum and the fundus to become wedged in the cul-de-sac of Douglas. Failures in fitting pessaries by myself, and afterwards by another gynecologist, and a persistence of distress, inability to attend to her duties and hysterical symptoms, in spite of local and general treatment, have influenced me to perform Alexander's operation.

As you see, she is a young, well developed, somewhat muscular woman, without any superabundance of fat. The ligaments should be of good size and easily found. I begin my incision over the pubic spine and extend it for an inch and a half outward along the upper edge of Poupart's ligament. One cut brings us through the skin, another through a stratum of fat down to the deep layer of the super-

ficial fascia. I have struck the external pudic artery on the inner side of the incision and the superficial epigastric on the other, both of which in this case are so large as to require fine catgut ligatures. Below this deep layer of the superficial fascia we seldom find blood-vessels of any size. Another cut brings us down upon the external ring which is easily felt by the finger end as a long narrow depression along the upper edge of Poupart's ligament, and near the pubic spine. With a probe-pointed fascia scissors I now cut all the tissues to the entire extent of the incision, introduce these small tracheotomy retractors, and have a clear bloodless field for work. An incision is now made from the pubic spine along the upper edge of Poupart's ligament right over the inguinal ring and as far as the depression is felt to extend. A slight bulging of fatty tissue shows that the inguinal canal is open. I seek for the ligament at the junction of the pubic spine and Poupart's ligament, and by looking carefully can see a delicate white nerve filament running over some pinkish slightly striated tissue. I cut the nerve, which is the genital branch of the genitocrural, and take up the tissue under it with the forceps, being sure to keep near to the pubic spine and Poupart's ligament. The thin fascia connecting it with the inferior external pillar is punctured by my broad hook and as the tissues are held up the fascia snapped toward the inguinal canal. The ligament is now free from the ring and can be recognized with ease for it is a large muscular one. By means of the hook I pull gently upon the ligament, separate the surrounding connective tissue, which forms a very loose sheath containing here and there aponeurotic bands that require section with the scissors. The ligament is strong, however, grows larger as it passes up the canal, and the connective tissue looser and more easily separated. Pulled again, the ligament slips gradually out of the canal, drawing an inverted portion of the peritoneal covering with it. The ligament

may now be said to run. I now drop it, introduce a small clean sponge into the incision, and cut for the other. On this side I make the incision a little shorter—meet with no arteries—and succeed as easily as before in making the ligament run. While Dr. Hoag replaces the uterus with a sound, I strip the inverted peritoneal sheath back and, the uterus being replaced, I pull on both ligaments until the sound in the uterus is felt to move. While Dr. Foulks holds the left one I will take three sutures with fine silkworm-gut through each edge of the ring and the round ligament as thus pulled out, and approximate loosely both edges of the ring to the ligament. I now cut off the projecting loop of the ligament and fasten the free end to the connective tissue at its normal pubic attachment. A few drachms of 1 per cent. carbolized water, injected into the ring under the ligament cleanses the inguinal canal. A small perforated rubber drainage tube, which I also slip under the ligament well into the canal, will prevent an accumulation of the bloody serum which is apt to be poured out freely during the first few hours. Using silk-wormgut for the external stitches, I carry the one nearest the pubic end of the incision through the round ligament. Having treated the left side similarly we sprinkle a few grains of iodoform in each wound, tie the external stitches and lay one of these pieces of lint dipped in a 10 per cent. solution of carbolized glycerine over each wound. Before removing the uterine probe I slip an Albert Smith hard rubber pessary over it and into position. As the patient will now wear it with comfort I will leave it for six or eight months, or until a permanent readjustment of the tissues will have taken place. The nurse will put a little absorbent cotton over and around the dressing and fix it all in place by a double T bandage. She will change the dressings as often as saturated by the discharges.

The after treatment is based upon ordinary surg-

ical principles. In from twelve to eighteen hours I shall inject some more of the carbolized water into the drainage tubes until it comes out clear. In from twenty-four to thirty hours I shall remove the tubes, wash out the drainage holes, sprinkle iodoform over all the stitches and then cover them with pads of iodoform gauze. In this way all bloody serum is removed and primary union under a dry dressing secured. External sutures are removed in 8 days.

We have here another patient in whom the operation will undoubtedly present more difficulties. She had some pelvic inflammation after the birth of her child about two and a half years ago, and, although apparently cured, has some faintly palpable peritoneal and cellular indurations and contractions about the broad ligaments. A slightly bluish hue of the cervix is one of the indications of such trouble, and is a condition that should lead us, before performing Alexander's operation, to examine the patient under ether, and determine whether the adhesions and contractions might not be such as render a complete and unhampered replacement impossible. In this case the fundus can be laid flat over the bladder, but less easily than in the other case. However, as pessaries do not hold the uterus in good position, and as there are no direct adhesions to prevent the shortened round ligaments acting, we will perform Alexander's operation as the most likely treatment to relieve her in the end. I have operated in a few such cases and have found that a readjustment and relief has finally occurred. She is a little fleshier than the first patient, but is rather deficient in muscular development, hence, I expect to find a smaller ligament and a greater abundance of connective tissue, and to have some difficulty in making the ligament run.

My incision, as you see, is only about an inch long and, not reaching the arteries on either side, scarcely bleeds at all. We are now upon the deep layer of

superficial fascia, and I will illustrate a mistake often made, that prevents the ligament being found. We are told that when the inguinal ring is opened we may know it by the springing up of the fat. I now make an incision over the ring about half an inch long, and the fat between the deep layer of the superficial fascia and the abdominal muscles, bulges up as if from the ring. You may hunt about in this supposed ring for hours, as others have done, and not find any ligament. We now cut through this deeper layer of fat by a free stroke, and come upon a coarse fibred fascia that shows no trace of an inguinal ring either to the sight or touch, for the firmness of the fascia prevents us from feeling any depression over the ring, and the relaxed empty condition of the bowels takes away that soft fullness that is sometimes observed. Feeling about again I at last find a depression, and did I not know my landmarks well, I would cut down into it, and perhaps search for an hour—it is a depression filled with fat just below Poupart's ligament. We must, therefore, in this case disregard depressions and cut down upon unmistakable unvariable landmarks. I place my knife just external to the pubic spine and cut through the fascia along the upper edge of Poupart's ligament, for the ring must be here. I am through, but I see no round ligament, only fat and connective tissue. Picking away a little fat I cannot be certain what I see. If I now make the mistake of poking about in the inguinal canal, I will disorganize the tissues so that I may not be able to recognize anything.

Remembering that the ligament is attached to the anterior surface of the pubes near the spine, and also to the external ring, I carefully take up the tissues that lie against the upper edge of Poupart's ligament near the spine, perforate the thin fascia stretched between the tissue raised and the external pillar with my broad hook, and feel confident that I hold the round ligament. I dissect off the fascia

underneath, pull off the connective tissue fibers at the sides and above, but still cannot recognize the ligament. The tissue remaining on my hook is somewhat ragged, seemingly too small, and, although I have separated this tissue quite deep into the ring, it will not pull out nor run. If I pull any harder it may break, in fact is already stretching. Now there are a few characteristics of the round ligament and its attachments that will enable me to determine whether to go ahead with this or to take up one of the other similar looking tissues. If this is an aponeurotic edge its separation from its surroundings must be followed by hæmorrhage—but the separation of this is almost bloodless; the aponeuroses when put upon the stretch come to a sudden stop, and, if pulled harder, break—while this gives an elastic resistance when pulled, and stretches before breaking; when an aponeurotic edge is pulled toward the inguinal canal, and from the pubes it shows its attachment to be at one of the pillars or under them—while this, when thus pulled, shows its attachment to be out upon the pubic bone near the spine. I am therefore sure that I have the ligament, although it is so small and has so spread itself before reaching the pubic bone that but little of it is left. Introducing my finger deep into the canal I boldly separate the ligament as far as the internal ring, and have the satisfaction of seeing it pull out slightly, become a little larger and easily recognizable. But I cannot bring out the peritoneal sheath as in the other case, and must separate very slowly with my finger in the canal. It now runs, as you see, but not so well as the other, and is about one-half the diameter.

The mistake that has often been made in such cases as this is that the ligament has been gradually stretched out instead of drawn out. When there is difficulty it is better to enlarge the opening of the ring, and get into the canal where the ligament

grows larger instead of smaller, as it would if merely stretched. You will notice that I have the same condition of affairs on the other side. The uterus being replaced, I finally succeed in moving the uterine probe by pulling on the ligaments. The difficulties are over, and I proceed to attach the ligaments and complete the operation as before. We will leave the pessary for eight or ten months.

A little reaction may be expected from the disturbance and stretching of peritoneal indurations and contractions, and possibly a dose of morphia be required when she recovers from the anæsthetic. The pessary is left for the purpose of keeping the cervix back of the pelvic axis until the round ligaments are healed in their new relationship, and until the sacro-uterine ligaments will have time to contract as much as may be. If, after two or three months there should be any tendency to a sagging forward of the cervix toward the relaxed pelvic outlet, we will raise the posterior vaginal wall by denuding and drawing up the tissues along the posterior sulci, somewhat after Freund's perineorrhaphy or Martin's *elytrorrhaphia duplex lateralis*. Thus the fundus will not only be held forward but the cervix upward and backward, and the retroversion be permanently cured.